

REMARKS

In this amendment, Applicant has amended claims 1, 6 and 14, and added claims 20 and 21. Support for these amendments can be found in the specification, as filed, at page 5. Accordingly, it is submitted that no new matter is added.

The purpose of this amendment that is being filed in connection with the Request for Continued Examination ("RCE") is to introduce additional claims 20 and 21 for examination. However, some of the art rejections made in the Final Office Action dated June 12, 2003 are also addressed.

With respect to claim 1, this claim was rejected as being anticipated by U.S. Patent No. 6,374,349 issued to McFarling ("McFarling"). According to the Final Office Action, at page 14, McFarling anticipates claim 1 because it allegedly discloses the following operation recited in Applicant's claim 1:

updating a replacement field for a matching entry in the local branch history table only if the first prediction is incorrect, indicating that the entry is used to make a prediction.

McFarling, in col. 9, lines 45-55, states:

The partial dominance concept does not dictate that all local history cache misses cause a replacement. Histories should be stored only in the event of problems. If the branch prediction value coming from the bimodal predictor is already correct, **it is not necessary to take a history entry from some other branch that may need it more**. Also, there is no point in replacing a local history entry if the prediction from the final stage predictor is already correct. These two provisions reduce the number of replacements and substantially reduce the number of history entries needed to produce a good prediction. [Emphasis added]

According to the Final Office Action, the emphasized portion of McFarling, indicated above, is equivalent to *updating a replacement field for a matching entry in the local branch history table*. However, Applicant respectfully disagrees because, in McFarling, "taking a history entry from some other branch that may need it more" means in effect invalidating an existing entry and creating a new history entry, for the current branch instruction that missed the local history cache. In contrast, claim 1 recites updating a replacement field for a matching entry, which means that there exists an entry in the

table that matches something, and a replacement field for that entry is updated only if the first prediction is incorrect. Thus, Applicant is not clear as to how updating a replacement field for a matching entry (only if the first prediction is incorrect) can be expanded to read on taking a history entry from some other branch. For example, how can updating a replacement field for a matching entry read on creating a new history entry? The question is especially appropriate here because the claim language further specifies that updating the replacement field *indicates that the entry is used to make a prediction*. Applicant simply cannot understand how that reads on the language in McFarling, “if the branch prediction coming from the bimodal predictor is already correct, it is not necessary to take a history entry from some other branch”. Accordingly, for these reasons, Applicant respectfully submits that the rejection of claim 1, as being anticipated by McFarling, is improper.

Applicant has taken a careful look at McFarling and has determined that all the claims pending following entry of this amendment, namely claims 1, 2, 4-9, 11-16, and 18-21 are neither anticipated nor obvious. Accordingly, a notice of allowance referring to such claims is respectfully requested to issue at the earliest possible date.

The undersigned wishes to thank the Examiner for the courtesy of a telephone interview last week in which the above cited portion of McFarling was discussed. According to the Examiner, the language in claim 1 of *updating a replacement field for a matching entry in the local branch history table only if the first prediction is incorrect, indicating that the entry is used to make a prediction*, is sufficiently broad as to read on the cited portion of McFarling. In particular, the Examiner mentioned that no patentable weight was given to the adjective “replacement” such that it’s conceivable that the claim language could read on updating a *history* field. However, the undersigned after thinking more about this assertion, has determined that even if the adjective “replacement” is given no patentable weight, the rejection in view of McFarling is still improper, because McFarling does not disclose updating a field for a matching entry in a branch history table, *indicating that the entry is used to make a prediction*. In other words, the updating indicates that the entry is used to make a prediction. As the Examiner is no doubt aware, the history entries in McFarling, when updated, do **not** indicate that the entry is used to make a prediction. Rather, updating a history entry

indicates that the associated branch instruction has either resulted in a taken or not-taken outcome. (McFarling, table bridging col. 8-9, illustrating that the branch history is modified based on the branch outcome, N or T.) Accordingly, even taking the Examiner's approach that the term "replacement" is to be given no patentable weight in claim 1, McFarling still does not anticipate that claim.

CONCLUSION

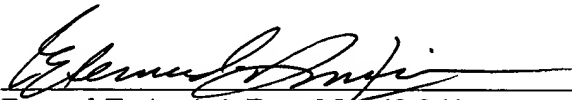
In sum, a good faith attempt has been made to present claims that are submitted to be in condition for allowance.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, Post Office Box 1450, Alexandria, Virginia 22313-1450, on October 7, 2003.


Margaux Rodriguez October 7, 2003